

REMARKS

At the outset, applicant wishes to thank Examiner Psitos for the helpful and courteous interview held with applicants' representatives, Mr. Nishida, Mr. Ohashi, Mr. Yoshimura, and Mr. Occhiuti, on August 11, 2004.

Based on our discussion and at the Examiner's suggestion, we have amended the preambles of independent claims 1 and 3 to recite that the data recorder, during a writing operation, generates a laser beam at a relatively high power level to form a recording pit. We have also amended independent claims 1, 3, 7, and 10 to more particularly recite that the interrupt control circuit for controlling the laser drive circuit to interrupt data recording if the laser beam is continuously generated at the relatively low power level in accordance with the laser drive signal and when the buffer underrun determination circuit determines that the buffer memory is in the state in which buffer underrun is likely to occur. We have also amended independent claims 8 and 9 to recite that the method for interrupting data recording in a data recorder to prevent the occurrence of a buffer underrun error ... includes determining whether or not a buffer memory of the data recorder is in a state in which buffer underrun is likely to occur based on the amount of data stored in the buffer memory.

§112 Rejections

The Examiner rejected claims 1-5 and 7-10 as failing to comply with the non-enablement requirement and for being indefinite. We believe that we have addressed the Examiner's objections in the amendments to the claims.

Double Patenting (Obviousness-type) Rejections

The Examiner rejected claims 1-5 and 7-10 under the judicially created doctrine of obviousness type double patenting as being unpatentable over claim 1 of U.S. 6,487,616 in view of Kuroda and alternatively with JP 08-147879. As discussed with the Examiner, applicants will consider filing a terminal disclaimer upon an indication of allowable subject matter.

Prior Art Rejections

JP2842262 (alternatively identified as JP 08-147879) further considered with the so-called acknowledged prior art

The Examiner rejected claims 1, 2, 7, 8, and 10 as being unpatentable over JP2842262 further considered with the so-called acknowledged prior art with respect to the sync pattern. The Examiner notes that JP2842262 describes preventing recording during a buffer underrun condition. The Examiner concludes therefore the system described in JP2842262 must include a laser drive, a buffer underrun determination circuit, and an interrupt control circuit. It appears that the Examiner also acknowledges that there is no clear depiction of interrupting data recording at a relatively low power level, but believes that this feature reads upon the low level signals discussed in applicants' own disclosure.

However, we submit that JP2842262 does not describe or suggest an interrupt control circuit for controlling the laser drive circuit to interrupt data recording if the laser beam is continuously generated at the relatively low power level in accordance with a laser drive signal generated by a laser drive circuit (claim 1) or sync pattern data (claim 10) and when the buffer underrun determination circuit determines that the buffer memory is in the state in which buffer underrun is likely to occur, as recited in independent claims 1 and 10, as amended.

We also submit that JP2842262 does not describe or suggest an interrupt control circuit for continuing recording until an interval between sectors appears when the buffer underrun determination circuit determines that the buffer memory is in a state in which buffer underrun is likely to occur and interrupting the recording operation when the laser beam is continuously generated at the low power level in accordance with the sync pattern of a sector, as recited in independent claim 7, as amended.

We further submit that JP2842262 does not describe or suggest a method for interrupting data recording in a data recorder including interrupting the recording operation when a buffer underrun determination circuit determines that the buffer memory is in a state in which buffer underrun is likely to occur and the laser beam is continuously generated at the low power level in accordance with the sync pattern of a sector, as recited in independent claim 8, as amended.

Similarly, JP2842262 does not describe or suggest a method for interrupting data recording in a data recorder including interrupting data recording if the laser beam is continuously generated at a low power level in response to determining that the buffer memory is in the state in which buffer underrun is likely to occur, as recited in independent claim 9, as amended.

Because claim 2 depends from independent claim 1, claim 2 is patentable for at least the same reason that claim 1 is patentable.

JP2842262 (alternatively identified as JP 08-147879) further considered with Takagi or EP 507571

The Examiner also rejected claims 1-5 and 7-10 as being unpatentable over JP2842262 further considered with Takagi or EP 507571. The Examiner acknowledges that JP2842262 does not disclose an address memory for storing positions associated with resuming recording at a next available location. The Examiner argues however that either Takagi or EP 507571 disclose this feature. As discussed above, we submit that the independent claims 1 and 7-10 are patentable over JP2842262 for the reasons discussed above. We further submit that neither Takagi nor EP 507571 disclose the feature found to be lacking in JP2842262. In particular, we submit that none of JP2842262, Takagi nor EP 507571, separately or in combination, disclose interrupting data recording if the laser beam is continuously generated at a low power level in response to determining that the buffer memory is in the state in which buffer underrun is likely to occur.

Hyun further considered with JP2842262 (alternatively identified as JP 08-147879) and all further considered with Maeda

The Examiner rejected claims 1, 2, 7, 8 and 10 as being unpatentable over Hyun further considered with JP2842262 (alternatively identified as JP 08-147879) and all further considered with Maeda. The Examiner believes that both Hyun and JP2842262 disclose the ability to detect a buffer underrun condition. The Examiner acknowledges that Hyun does not clearly depict interrupting data writing if the laser beam is continuously generated at the relatively low power

Applicant : Koji Hayashi
Serial No. : 09/717,771
Filed : November 21, 2000
Page : 11 of 11


Attorney's Docket No.: 10449-
028001 / P1P2000217US

level and when a buffer underrun condition exists. Further, as stated in paragraph 4 of the office action, it appears that the Examiner also acknowledges that JP2842262 also does not disclose this feature. The Examiner then cites Maeda as disclosing "checking for the loss of sync, interruption thereof and appropriately compensating the system." As discussed above, we submit that the independent claims 1 and 7-10 are patentable over JP2842262 for the reasons discussed above. We further submit that neither Hyun nor Maeda disclose the feature found to be lacking in JP2842262. In particular, we submit that none of JP2842262, Hyun nor Maeda, separately or in combination, disclose interrupting data recording if the laser beam is continuously generated at a low power level in response to determining that the buffer memory is in the state in which buffer underrun is likely to occur.

Enclosed is a Petition for One Month Extension of Time with a check for \$110.00 for the required fee. Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

Date: September 28, 2004



Frank R. Occhiuti
Reg. No. 35,306

Fish & Richardson P.C.
225 Franklin Street
Boston, MA 02110-2804
Telephone: (617) 542-5070
Facsimile: (617) 542-8906